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PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

United States Patent and Trademark
Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year)
09 August 1999 (09.08.99)

in its capacity as elected Office

International application No.
PCT/US98/23311

Applicant's or agent's file reference
6934/VB

International filing date (day/month/year)
02 November 1998 (02.11.98)

Priority date (day/month/year)
10 November 1997 (10.11.97)

Applicant

KENNEALLY, Corey, James et al

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

01 June 1999 (01.06.99)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Jean-Marie McAdams

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C07C 67/58, 67/02, C07H 13/06		A1	(11) International Publication Number: WO 99/24387
			(43) International Publication Date: 20 May 1999 (20.05.99)
<p>(21) International Application Number: PCT/US98/23311</p> <p>(22) International Filing Date: 2 November 1998 (02.11.98)</p> <p>(30) Priority Data: 60/064,782 10 November 1997 (10.11.97) US</p> <p>(71) Applicant (for all designated States except US): THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): KENNEALLY, Corey, James [US/US]; 3770 Springmill Way, Maineville, OH 45039 (US). BUSCH, Gary, Allen [US/US]; 731 Red Bud Avenue, Cincinnati, OH 45229 (US). GANSMULLER, Erich, William [US/US]; 3823 Forest Avenue, Norwood, OH 45212 (US).</p> <p>(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217-1087 (US).</p>			<p>(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p>
<p>(54) Title: A PROCESS FOR MAKING HIGH PURITY FATTY ACID LOWER ALKYL ESTERS</p> <p>(57) Abstract</p> <p>Processes for the synthesis of high purity fatty acid lower alkyl esters comprise the steps of: (a) converting a fatty acid source to a product mixture comprising lower alkyl esters and by-products; (b) water-washing the product mixture at elevated temperature and elevated pressure to remove by-products; and (c) fractionally distilling the water-washed product mixture to obtain high purity fatty acid lower alkyl esters. At least a portion of the fatty acids have from about 20 to about 24 carbon atoms. The high purity lower alkyl esters have an acid value no greater than about 1.0.</p>			

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REC'D 08 FEB 2000

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 6934/VB	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US98/23311	International filing date (day/month/year) 02/11/1998	Priority date (day/month/year) 10/11/1997	
International Patent Classification (IPC) or national classification and IPC C07C67/58			
Applicant THE PROCTER & GAMBLE COMPANY et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 01/06/1999	Date of completion of this report 03.02.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Janus, S Telephone No. +49 89 2399 8333



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US98/23311

I. Basis of the report

1. This report has been drawn on the basis of (substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

Description, pages:

1-25 as originally filed

Claims, No.:

1-10 as originally filed

2. The amendments have resulted in the cancellation of:

the description, pages:

the claims, Nos.: _____

the drawings, sheets:

3. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c));

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- the entire international application.
- claims Nos. .

because:

the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

International application No. PCT/US98/23311

- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-10 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet
- the claims, or said claims Nos. 1-10 are so inadequately supported by the description that no meaningful opinion could be formed.
- no international search report has been established for the said claims Nos. .

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US98/23311

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The present claims 1-10 contain many unclarities, lack concision, and are insufficiently supported by the description to such an extent that a proper examination appears impossible at this stage. The attention of the applicant is in particular drawn to the following :

1. The main difference between the present subject-matter, especially as represented by the examples, would appear to be the fact that the water washing is carried out at a temperature above room temperature, and at a pressure above normal pressure. The main claim, however, includes embodiments which would relate to a water washing at 21 °C (i.e. within what is normally regarded as "room temperature") and atmospheric pressure (see also item 4 below).

Since the apparently essential feature of the described process is not included in the claim, said claim does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

Claim 1 cannot therefore be regarded as adequately supported by the description (Art. 6 PCT).

None of the remaining claims include said features, so that the objection must be regarded as applying to all claims.

2. The term "lower alkyl" has no generally accepted meaning in the art and is regarded as unclear, since the higher limit of carbon atoms is not unambiguously defined. Claims 1, 2, 4, 5 and 7-10 must therefore be regarded as lacking clarity (Art. 6 PCT)
3. The use of the word "about", especially in connection with ranges of carbon atoms in a group is more or less a chemical nonsense. When used in a claim (see claims 1 and 9), this results in a lack of clarity, contrary to Art. 6 PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US98/23311

In connection with other ranges (e.g. temperature and pressure), this word is also regarded as introducing a lack of clarity, since the exact scope of the range cannot be exactly determined. Claims 1-4, 6, 7, 9 and 10 do not meet the requirements of Art. 6 PCT on this basis.

4. Regarding the use of terms such as "preferably" (see claims 1, 2, 9 and 10), the attention of the applicant is drawn towards the PCT Guidelines for examination, PCT/GL/3, Chapter III, 4.6; the presence of facultative (non-limiting) features in a claim is detrimental to its concision, contrary to Art. 6 PCT.
5. The expression "high purity" does not appear to have a generally accepted meaning; the scope of claims 1, 2, 8 and 10 cannot therefore be regarded as clear (Art. 6 PCT).
6. Finally, claims 1, 2, 4, 9 and 10 are regarding as attempting to define their subject-matter in terms of the result to be achieved, particularly insofar as impurity content of the water-washed product, acid value, Lovibond yellow or triglyceride level of the final product is concerned. It appears however that it is possible to define said subject-matter in terms of features necessary for said results to be achieved. These claims do not therefore meet the requirements of Art 6 PCT.
7. Should the applicant decide to amend his claims when entering national/regional phase, then he is reminded of the fact that a preparation process cannot be regarded as a characterising feature for a compound (or mixture of compounds) prepared by said process. It would therefore be advisable to delete present claims 8 and 9, as it does not appear that their subject-matter can in any way be distinguished from the prior art fatty acid esters.

In reply to these objections mentioned in a written opinion, the applicants essentially indicated the passages of the description where the definitions for the unclear expressions were to be found. They expressed the opinion that this was sufficient to provide support for the claims and render them clear. This is in contradiction with the PCT Guidelines for Examination, Ch. III, paragraph 4.1. which clearly requires that the claims be clear on their own, i.e. without reference to the description. The arguments developed in the letter of reply do not therefore allow revision of the previous opinion.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 6934/VB	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 98/23311	International filing date (day/month/year) 02/11/1998	(Earliest) Priority Date (day/month/year) 10/11/1997
Applicant THE PROCTER & GAMBLE COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Certain claims were found unsearchable (see Box I).
2. Unity of invention is lacking (see Box II).
3. The international application contains disclosure of a **nuclotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing
 - filed with the international application.
 - furnished by the applicant separately from the international application,
 - but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
 - Transcribed by this Authority

4. With regard to the title, the text is approved as submitted by the applicant
 the text has been established by this Authority to read as follows:

A PROCESS FOR MAKING HIGH PURITY FATTY ACID LOWER ALKYL ESTERS

5. With regard to the abstract,
 - the text is approved as submitted by the applicant
 - the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is:

Figure No. _____

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.
- None of the figures.

INTERNATIONAL SEARCH REPORT

1st Application No

PCT/US 98/23311

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 C07C67/58 C07C67/02 C07H13/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 6 C07C C07H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 391 485 A (UNILEVER NV ;UNILEVER PLC (GB)) 10 October 1990 cited in the application see the whole document ---	1-10
X	US 2 383 601 A (KEIM GERALD I) 28 August 1945 cited in the application see example 1 ---	1-10
X	EP 0 164 643 A (HOECHST AG) 18 December 1985 cited in the application see the whole document ---	1-10
A	WO 97 27275 A (ABBOTT LAB) 31 July 1997 ---	1-10 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

22 February 1999

03/03/1999

Name and mailing address of the ISA

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Authorized officer

Janus, S

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/23311

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 94 17027 A (GROSS MANFRED ; TSCHAMPEL GERDA (DE); CHEM & PHARM PATENT HOLD LTD) 4 August 1994 -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

Initial Application No

PCT/US 98/23311

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 0391485	A 10-10-1990	AU 5292690	A	11-10-1990
		CA 2013865	A	05-10-1990
		DE 69005501	D	10-02-1994
		DE 69005501	T	11-05-1994
		DK 391485	T	11-04-1994
		ES 2062293	T	16-12-1994
		JP 3200743	A	02-09-1991
		US 5116546	A	26-05-1992
US 2383601	A 28-08-1945	NONE		
EP 0164643	A 18-12-1985	DE 3421217	A	05-09-1985
		AU 569570	B	04-02-1988
		AU 4339285	A	12-12-1985
		BR 8502693	A	12-02-1986
		CA 1247130	A	20-12-1988
		DD 232913	A	12-02-1986
		DK 254685	A	08-12-1985
		JP 61001640	A	07-01-1986
		PT 80603	B	23-04-1987
		SU 1402250	A	07-06-1988
		US 4668439	A	26-05-1987
WO 9727275	A 31-07-1997	NONE		
WO 9417027	A 04-08-1994	DE 4301686	C	31-03-1994
		EP 0629185	A	21-12-1994
		HU 68284	A, B	28-06-1995
		PL 305263	A	09-01-1995